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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,224

04/13/2006

Tadashi Ishikawa

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EXAMINER

SAVAGE, JASON L

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,224	Applicant(s) ISHIKAWA ET AL.	
	Examiner JASON L. SAVAGE	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20080902, 20080303, 20060703, 20060413</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 102(a) as being anticipated or in the alternative under 35 U.S.C. 103(a) as being unpatentable over Terada et al (JP 2003-328080).

Terada teaches a steel structure pipe which is to be welded to other steel structures wherein the hardness of the weld material is between 95-115% of the hardness of the base metal (abs). Although Terada does not explicitly recite the weld joint is a butt-weld, it is the position of the Examiner that the joints would be butt-welds. In the alternative, it would have been obvious to one of ordinary skill in the art to have formed any of a wide variety of weld joints including butt-welded joints with a reasonable expectation of success.

Regarding the limitation that the hardness of the weld metal is not more than 110%, Terada anticipates the claimed range between 95-110%.

Regarding claim 2, Terada would meet the claim limitations since 95-110 is greater than 70%.

Claim Rejections - 35 USC § 103

Claims 3-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al (JP 2003-328080) in view of Shigeru (JP 03-153828).

Terada teaches what is set forth above but is silent to the width of the weld metal being not more than 70% of the plate thickness of the base metal. Shigeru teaches the in a welded joint for steel components, it is desirable that the weld zone thickness is smaller than the base metal plate thickness (abs). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the welded structure of Terada following the teaching of Shigeru and made the weld zone thickness which is smaller than the base metal thickness. Regarding the limitation that the thickness is not more than 70%, it would have been merely been a matter of routine experimentation and optimization to determine a desirable weld zone width ratio. Absent a teaching of the criticality or showing of unexpected results, the claimed width ratio would not provide a patentable distinction over the prior art.

Regarding claims 5 and 6, Terada is silent to the region affected by welding having a hardness which is softened to not more than 95% of the hardness of the non-heat-affected or unaffected portion of the base metal, the recited hardness would be met. Regarding the limitation that the width of this region is no less than 5 mm, the width of this region would ultimately depend on the size of the components to be joined.

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Since Terada generally teaches that the joined structure may be pipeline and does not explicitly recite size limitations, it would have been within the purview of one of ordinary skill in the art to have selected components having any size including components which are large and thick. With such larger sized components, the width of the recited region being no less than 5mm would be met. In the alternative, it would have been obvious.

Regarding claim 11, the prior art does not teach that the butt-welded joint structures are formed from steel plates having a thickness over 50 mm. However, it would it would have been within the purview of one of ordinary skill in the art to have selected components having any size including components which are relatively thick such as the plates having a thickness of 50mm such as claimed

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terada et al (JP 2003-328080) in view of Shigeru (JP 03-153828) as applied to claims 3-6 and 11 above, further in view of Hasegawa et al. (JP 2002-161329).

The prior art teaches what is set forth above however it is silent to the claim limitations in claims 8-11 that the prior austenite grain size in the HAZ contacting the welding fusion line is not more than 200 micrometeres. Hasegawa teaches a steel structure which has superior fracture resistance characteristics of a weld wherein a grain size in a weld heat affected zone of a former austenite grain size in the HAZ is 200 micrometers or less (abs).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to have insured an austenite grain size in the HAZ contacting a weld fusion line is not more than 200 micrometers in the article of Terada as modified by Shigeru since the weld structure having the recited properties are taught to be superior in fracture resistance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/
9-28-08

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794